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| EXAMINER | |
|---|---|
| WANG, EUGENIA | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/821,368 | MIYAKI ET AL. | |
| | Examiner | Art Unit | |
| | EUGENIA WANG | 1795 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *17 March 2010 and 23 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3 and 4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 17, 2010 (and supplemental submission submitted March 23, 2010) has been entered.

2. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Response to Amendment***

3. In response to the amendment received March 17, 2010 and the supplemental amendment received March 23, 2010:

a. Claims 1, 3, and 4 are pending.

b. It is noted that the previously claim objection (in the Final Office Action mailed November 19, 2009) has been withdrawn in light of the After Final Amendment February 17, 2010. Such an amendment was entered with the Advisory Action dated February 24, 2010.

c. It is noted the noted that the supplemental amendment is entered, as it only serves to correct a non-compliant issue with respect to the claim headings/claim language of the March 17, 2010 amendment (due to the fact that such an amendment had been entered with the after final amendment, and thus did not correctly represent the previously pending claims). The rest of the response is substantially the same as that of the March 17, 2010 response.

d. The rejection of record is maintained. Since no amendments to the claims were made, and the same rejection that was applied on the last final action is still applied, this action is final (as set forth above).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1 and 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0704921A1 (Fujimoto et al.) in view of WO 01/29918 (Ikeda et al.). (Note: US 7241533 is being relied upon as an English translation for WO 01/29918, both of which stem from PCT/JP00/07297).

As to claim 1, Fujimoto et al. teaches a cylindrically wound battery, where the electrode material mixture (both positive electrode, cathode, and negative electrode, anode are included) is present on both the inner and outer sides of the current collector (abs). Furthermore, the negative electrode active material is chosen such that the efficiency of lithium intercalation and deintercalation is high (p3, lines 37-39). The compounds used in the negative electrode materials are from groups IIIb, IVb, and Vb of the periodic table. One specific formula of the active material used is $SnSi_tP_uAL_vO_s$ represented by formula (V) (p4, line 50) (both tin and silicon containing). Furthermore, the use of tin monoxide and silicon dioxide is exemplified in the synthesis examples 1-5 (p7-8).

It is again emphasized that Fujimoto et al. appreciates tin-silicon oxide materials, as seen in several examples under synthesis example 1 (p7, lines 1-30). It is noted that crystallinity and lack thereof (wherein a lack of crystallinity indicates amorphousness) is discussed. It is stated that a crystalline structure has a diffraction line between $2\theta=40°$ to 70° (p7, lines 7-14). As seen in the appreciated examples, either crystallinity is present (wherein B/A >0, as B is defined as the diffraction line measure), or crystallinity is not present (indicating no crystallinity and thus amorphousness). For example, the appreciated compound at 1-G at p7, line 20 is $SnSi_{0.5}Pb_{0.5}O_3$, wherein B/A=0.3, which

indicates crystallinity. Additionally, example 1-Q at p7, line 30 is $SnSi_{0.9}O_{2.8}$, wherein B/A=0, which indicates no crystallinity (amorphousness). It is noted that such structures showing crystallinity is interpreted to be microcrystalline, as crystallinity exists and particle sizes are defined using micrometers, thus indicating a micro-sized scaling (i.e. the average particle size is 4.5 μm for synthesis example 1, as seen on p7, line 6). This interpretation is taken barring specification as to what constitutes microcrystalline. Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Also, limitations appearing in the specification but not recited in the claim are not read into the claim. See *In re Zletz*, 893F.2d 319, 321-22,13 USPQ2d, 1320, 1322 (Fed. Cir. 1989). In such a manner the Si or Sn compounds are either amorphous or microcrystalline.

It is furthermore noted that Fujimoto et al. teach of average particle sizes of its negative active material. For example, a tin-silicon-oxide (negative active material) of synthesis example 1 has an average particle size of 4.5 μm (which falls into the particle diameter size as claimed, 0.1-35 μm) (p7, lines 3-6). Although it is not specifically stated that all of the particles fall within the claimed size, Fujimoto et al.'s teaching of embodied average particle sizes would at least render obvious the use of particles of such a size, as such a size is specifically noted. Accordingly, one of ordinary skill in the art would find it obvious to make the negative active material having a size of 4.5 μm, as Fujimoto et al. specifically embodies such a desired size, wherein the use of active material of this size would have provided the predictable result of creating a working

battery. Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to make a battery with an active material having a size of 4.5 μm (and sizes close to that), as Fujimoto et al. specifically embodies negative active material with particles having such an average size, and thus the use of active material particles of such a size within a battery would yield the predictable result of forming an operating battery. Furthermore, it is noted that particle sizes of active materials are seen as result effective variables, as particle sizes would affect physical characteristics that would help optimize battery operation. For example, particle sizes would alter things such as surface area of the active material available for chemical reaction, packing density (amount of active material within the anode available for chemical reaction as well as porosity, which would allow for ion transport). It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the size of the particle size (i.e. to between 0.1-35 μm), since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It has been held that discovering that general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,*105 USPQ 233. Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art *unless* there is evidence indicating such ranges is critical. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

As previously stated, the battery of Fujimoto et al. is cylindrical (p2, lines 48-49). NOTE: A cylinder inherently has a circular cross section (sectional surface shape), as is defined by the constraints of a cylindrical volume. A circle is a special type of ellipse; in an ellipse that is a circle, the longest diameter to the shortest diameter is 1:1 (or 1, inclusive, as claimed by the instant application). Furthermore, it is listed that the thickness of electrode material mixture on the inner side of the collector is from 60% to 97%, more preferably 70% to 95%, of the outer collector. The difference in thickness inherently provides a difference in capacity, as the thicker layer contains more active material, and thus has more capacity. In Fujimoto's teaching, the ratio ranges of capacity of the outer active material to the inner active material would be from 1:0.6 to 1:0.97, inclusive, more preferably 1:0.7 to 1:0.95, inclusive. A portion of Fujimoto et al.'s range covers the claimed ratio, and therefore would inherently provide the same claimed ratio difference.

Alternately, it can be said that Fujimoto et al. do not disclose the specific capacity ratio of the outer anode active material to the inner active anode material that is from 1:0.6 to 1:0.8, inclusive. However, it has been held that when the difference between a claimed invention and the prior art is the range or value of a particular variable, then a prima facie rejection is properly established when the difference in the range or value is minor. Titanium Metals Corp. of Am. v. Banner, 778 F.2d 775, 783, 227 USPQ 773, 779 (Fed. Cir. 1985). Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller,

220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). Claims that differ from the prior art only by slightly different (non-overlapping) ranges are prima facie obvious without a showing that the claimed range achieves unexpected results relative to the prior art. (In re Woodruff, 16 USPQ2d 1935,1937 (Fed. Cir. 1990)). Selection of optimum ranges within the prior art's general condition is obvious. (In re Aller, 105 USPQ 233(CCPA 1955)).

Fujimoto et al. does not teach that the anode current collector is made of a plurality of layers including an inner current collector layer and an outer current collector layer.

Two portions of Ikeda et al. are relied upon to render obvious the use of two types of plural layered current collectors.

(1) Ikeda et al. teach of a rechargeable lithium battery where current collectors having layers of active material provided on opposite faces thereof may be prepared from two current collectors each having a layer of active material on its one face by joining the back faces to each other (thus resulting in a two layered current collector with active material on either side) (col. 6, lines 40-45). One having ordinary skill in the art at the time the claimed invention was made would have found it obvious to create a current collector with active material on both sides, as disclosed by Ikeda et al., since such a known method of forming a current collector with active material on opposing sides would yield the predicable result of having a similar structure (active material on both sides of a current collector, whether the current collector is one or two layers), which would have operated in the same manner. Accordingly, it is seen that whether a current

collector is a single layer (as embodied in the primary reference, Fujimoto et al.) or plural layers (as taught by Ikeda et al.) lacks criticality, as both would yield the same result of having electrode active material coated on both sides of a current collector for use in a battery. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the single layered current collector with active material on both sides with a current collector with plural layers wherein active material is on both sides, as Ikeda et al. teach that such a method is known to make a current collector with active material on both sides, and the application of such a method would yield the predicable result of having a similar structure (active material on both sides of a current collector, whether the current collector is one or two layers), which would have operated in the same manner within a battery.

(2) Ikeda et al. teach of current collector made of a metal foil, wherein an interlayer may be provided on each face of the current collector, wherein the interlayer is what faces the active material (col. 2; lines 58-64). In such a manner, it can be interpreted that the composite collector of Ikeda et al. includes the current collector and inter layer on each side (wherein such a final product has a battery wherein the anode active material is on both sides of the composite anode current collector having the plurality of layers defined above). The motivation for using a plural layered composite collector (interlayer-current collector-interlayer) is in order to provide the current collector in the form of a foil that is high in mechanical strength while providing interlayers that are made of materials that can be alloyed with the active material to enable diffusion of the interlayer components into the active materials (col. 2, line 58 to col. 3, line 7). The motivation for wanting use

a plural layered composite current collector (as taught by Ikeda et al. and applied to Fujimoto et al.) is to provide a stronger composite current collector that still is capable of alloying with the active materials (col. 2, line 58 to col. 3, line 7). Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to use the plural layered composite current collector (interlayer-current collector-interlayer), as taught by Ikeda et al. in the battery of Fujimoto et al. in order to impart good mechanical strength of the composite collector and good alloying capabilities between the composite collector and the active materials.

As to claim 3, Fujimoto et al.'s outer anode active material layer and the inner anode active material layer are inherently alloyed with the current collector, because the tin used in the exemplified in the anode active material is able to be alloyed with the exemplified anode current collector (copper, as is used in example 1 on p12, lines 22-26).

As to claim 4, in example 1 of Fujimoto et al., a negative electrode material is prepared via dispersion and applied to the current collector (p12, lines 22-26). This application is a liquid-phase deposition.

***Response to Arguments***

5. Applicant's arguments filed March 23, 2010 have been fully considered but they are not persuasive.

Applicant argues (a) that secondary batteries having a capacity ratio of 0.6-0.8 demonstrate superior cycle retention rates at a high capacity (2260 mAh), whereas the comparative examples having a similar high capacity have a cycle retention rate of 50%

or less, (b) that states that although Fujimoto et al. recognizes the increased capacity [with such a ratio] increased cycle retention is not mentioned, and thus concludes that such results are unexpected since the comparative examples show a decrease in cycle retention rates as the initial capacity increases, specifically pointing to Table 1 (examples versus comparative examples).

Examiner respectfully disagrees. First is it submitted that two interpretations with respect to the capacity ratio have been applied: (1) wherein Fujimoto et al. teach the capacity ratio (via the thickness difference providing such a ratio in amount of active material and thus capacity) and (2) wherein Fujimoto et al. render obvious the capacity ratio. A full response as to how unexpected results are not shown/ applicable to both interpretations is set forth below.

As applicable to interpretation (1):

Again it is emphasized that in such an interpretation, Fujimoto et al. *teach* the claimed ratio. Accordingly, with respect to both (a) and (b), it is submitted, it would follow that one of ordinary skill in the art would expect Fujimoto et al.'s battery (with the same claimed ratio) to inherently have the same characteristics with respect to cycle retention. There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. Schering Corp. v. Geneva Pharm. Inc., 339 F.3d 1373, 1377, 67. Furthermore, with respect to (b), it is submitted that such arguments are irrelevant to the above interpretation. It is noted that the prior art is closer to the claimed invention than that of the comparative examples, as it is seen to teach the

claimed capacity ratio. "Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims." See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), MPEP §716.02(b)(III), and MPEP §716.02(d) - § 716.02(e). Again, it is emphasized that it is unsure how the claimed capacity ratio can show unexpected results when Fujimoto et al. is seen to teach such a capacity ratio (and thus, the resulting characteristics of such a teaching would be expected). Applicant fails to show or provided proof/reason as to why the results would be unexpected or the fact that unexpected results even exists (due to the fact that there is no comparison to the prior art itself, wherein the prior art teaches the capacity). Accordingly, such arguments are not found to be persuasive, and the rejection of record is maintained.

As applicable to interpretations (1) and (2):

It is noted that true unexpected results have not been clearly shown.

With respect to (a):

It is noted that high capacity (2260 mAh, as submitted by Applicant) of the claimed ratio is neither unexpected nor is it claimed. As seen in the examples/comparative examples, it is seen that the higher the $C_{in}$ and $C_{out}$ are the higher the capacity is. However, one of ordinary skill in the art would have found such a relationship to be expected (the higher two types of capacity are individually, the higher total capacity of the battery is). Applicant has not provided any proof or reasoning to the contrary. Additionally, it is noted that nothing in the claims precludes the application of batteries having a capacity lower than 2260 mAh, and thus, it is uncertain as to why comparative

examples with less than 2260 mAh were ignored in the analysis of unexpected results. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the batteries have a certain "high" capacity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Accordingly, it is submitted that comparative example 1-1 (table 1, p 25) shows a cycle retention rate of 65%, which is higher than 60% (a value Applicant is submitting to be "unexpected"). Such a data point provides proof that Applicant has not clearly linked the claimed capacity ratio to providing such cycle retention rate, as examples outside of the claimed range clearly still display good cycle retention rates. Accordingly, it is submitted that Applicant has not met the burden of showing true unexpected results as outlined MPEP §716.02. Accordingly, such arguments are not found to be persuasive, and the rejection of record is maintained.

With respect to (b):

It is first submitted that (similarly to the response set forth in section (1), the prior art cited is closer to the claimed invention than that of the comparative examples, as it is seen to teach/obviate the claimed range via a difference in thicknesses of the active material (and thus capacity). "Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims." See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), MPEP §716.02(b)(III), and MPEP §716.02(d) - § 716.02(e).

Accordingly, it is submitted that Applicant has not shown true unexpected results. Additionally, in line with the response to part (a), above, Applicant has failed to show true criticality of the obtained cycle retention rate of the claimed range by dismissing comparative example 1-3, wherein comparative example 1-3 shows cycle retention rate comparable to that of examples that fit the claimed range. Furthermore, it is submitted Applicant has not clearly linked the claimed capacity ratio to the cycle retention rate, as other variable are seen to change as well. For example, the total $C_{in}$ and $C_{out}$ may be what affects cycle retention rate (rather than the ratio), as $C_{out}$ is always held constant, while $C_{in}$ changes. Thus it is unclear that a $C_{in}/C_{out}$ ratio using different $C_{in}$ and $C_{out}$ values (such as 2.3 value for both $C_{in}$ and $C_{out}$ to yield a ratio of 1, which is outside the claimed ratio) would still provided lower than 60% cycle retention rate. Furthermore, it is noted that even the exemplified examples 1-1 to 1-4 (even in conjunction with comparative examples 1-1 and 1-2) shows a clear tend of cycle retention rate. Generally it is seen that the cycle retention rate decreases with a decreasing $C_{in}/C_{out}$ ratio (table 1). Accordingly, it is submitted that Applicant's own data shows a pattern or trend with respect to cycle retention rate. Thus, it is uncertain how a relationship that generally shows a trend can show anything unexpected (as it would be expected that as $C_{in}/C_{out}$ ratio decreases, the cycle retention decreases as well). (Note: The exception with respect to the trend set forth above is with comparative example 1-3, however, the difference in capacity between it and example 1-4, the closest $C_{in}/C_{out}$ ratio, is only about 4%, a sufficiently low percentage difference, and thus not seen to be significantly different.) Lastly it is submitted that true criticality/unexpected results has not been

shown, as very few data points (specifically outside of the range) are shown (wherein the data points shown outside of the range are significantly different from the claimed range), no true criticality can be linked to the claimed range. For non-limiting example, only two points above the claimed range are shown, wherein a greater than 10% difference lies between the ratio of comparative example 2 (0.89) and that of the claimed invention (0.8, and end point which is not even shown within the example). Accordingly, the data is insufficient to show true unexpected results of the claimed range. How is a ratio of 0.06 show a truly unexpected result with respect to a ratio of 0.59? How does a ratio of 0.80 show a truly unexpected result with respect to a ratio of 0.81? "To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests both inside and outside the claimed range to show the criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197 (CCPA 1960)." See MPEP §716.02(d). Accordingly, it is submitted that Applicant has not met the burden of showing true unexpected results as outlined MPEP §716.02. Accordingly, such arguments are not found to be persuasive, and the rejection of record is maintained.

It is noted that Applicant argues that the rejection to the pending claims should be withdrawn. However, it is noted that all arguments are directed at the independent claim without further arguments as to why the rejection fails to teach the limitations of the dependent claims. Thus the rejection with respect to both the independent claim (as set forth above) and the dependent claims are maintained.

***Conclusion***

6. Again, for clarity's sake it is reiterated as to why this first action is made final:

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENIA WANG whose telephone number is (571)272-4942. The examiner can normally be reached on 7 - 4:30 Mon. - Thurs., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. W./
Examiner, Art Unit 1795

/Gregg Cantelmo/
Primary Examiner, Art Unit 1795